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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

NGUYEN, H

ART UNIT

PAPER NUMBER

2851

10

DATE MAILED: 10/20/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/145,982

Applicant(s)
Hase

Examiner
Nguyen, Hung Harry

Group Art Unit
2851



☒ Responsive to communication(s) filed on Amendment filed 9/13/1999

☒ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-7, 9-12, and 14-18 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) 9 and 17 is/are allowed.

☒ Claim(s) 1-7, 10-12, 14-16, and 18 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on the applications filed in Japan on 9/4/97 and on 7/21/1998. It is noted, however, that applicant has not filed certified copies of the foreign applications as required by 35 U.S.C. 119(b).
2. The disclosure should be carefully reviewed and ensure that any and all grammatically, idiomatic, and spelling or other minor errors are corrected. For instance, on page 12, line 5, reference to "the or" is not understandable.

Drawings

3. The drawings are objected to under 37 CAR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "an aperture formed in said support" (see claim 6 for instance) must be shown. No new matter should be entered.

Claim Rejections - 35 U.S.C. § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. Claims 6, 7, 10 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification of the disclosure lacks adequate support for the claimed provision of “*said passage means comprises an aperture formed in said support*”. Also, there is insufficient antecedent basis for this limitation in the specification.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 6, 7, 10, 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claims 1 and 15, the recitation of the term “substantially ” renders the claim indefinite. That is, when a term of degree is used as a limitation, it is necessary to determine whether the specification provides some standard for measuring that degree. In this case, the specification does not enable one skilled in the art to reasonably establish what may be construed as being within the metes and bounds of the term of degree. Therefore, one of ordinary skill in the art would not be apprised as to the claimed invention’s scope when the claims are read in light of the specification.

B. As to claim 6, 7, 10, it is not clearly understood whether or not “an aperture formed in said support” (the applicants refer to) is the “aperture stop 109” in fig.6? If yes, there is no

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physical connection between the aperture stop 109 and the passage means shown in fig.6 as claimed.

C. The following term lack proper antecedent basis in the following claim:

"the same casing" claim 10, line 3; claim 14, line 15; claim 18, line 16.

For the purpose of expediting prosecution, the rejected claims are being interpreted in the light of the specification under the following art rejection. The applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. *In re Yamamoto*, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984).

With this in mind, the rejection and discussion herein will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted.

Claim Rejections - 35 U.S.C. § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

9. Claims 1-2, 4-7, 10-11, 14-16 and 18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tanimoto et al (U.S.Pat. 4,690,528).

With regard to claims 1-2, 4-7, 10-11, 14-16 and 18 Tanimoto et al (fig.1 and 7) disclose an exposure apparatus comprising all of the limitations of the invention as claimed. (see abstract and fig.1, 7 and 8 of Tanimoto).

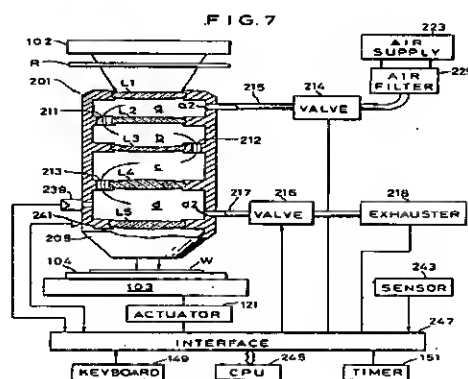


Fig.7 of Tanimoto.

10. Claims 1-2, 4-7, 10, 11, 14-16 and 18 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nishi et al (U.S.Pat. 5,883,704).

As to claims 1-2, 4-7, 10-11, 14-16 and 18 Nishi et al (fig.1-2) disclose an exposure system comprising all of the structures set forth in the instant claims.

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Claim Rejections - 35 U.S.C. § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being anticipated by Kosugi et al, (U.S. 4,786,947). Kosugi discloses a projection exposure apparatus which discloses all of the claimed subject matter of claims 1-3 such as: an illumination optical system 10; projection optical system 23 for projecting an image formed on a reticle onto the substrate. Especially, Kosugi et al teach a gas purging means (see page 3, line 61-page 4, line 33) as well as a humidity sensor 211 for controlling the temperature and pressure of the inside gas being circulated inside the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the gas purging means and humidity sensor as taught by Kosugi to supply the gas to the projecting optical system and measure the humidity of the gas inside the projecting optical system. The motivation for doing so would have been to prevent a change in spectral transmission factor of the projection optical system and thus high precision pattern transfer is greatly achieved.

13. Claims 1, 4-8 and 10-12, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujie et al, (U.S. 5,696,623) in view of Nishi. Fujie discloses a UV exposure

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apparatus which includes substantially all of the claimed subject matter of claims 1, 4-8, 10-12, 14-16 and 18. Namely, Fujie discloses the following (see figures 6A and B): an illumination optical system 20; a projection optical system 15; a gas purging means (see page 8 lines 13-18); a mutually communicating passage means (see figure 2C) wherein: the gas consists of one of nitrogen, air, or an inert gas, (see page 8, lines 39-52, and page 9, lines 49-56), optical components include a lens L1-10, and a support means 1, a straight line connecting adjacent passage means provided in the casing extends out of parallel to an optical axis of a lens, (see figure 2D), a path is defined for gas flowing from gas inlet P_{in} to gas outlet P_{out} (see figure 2C) and light source is KrF or ArF laser beam (see page 1 lines 20-28). However, Fujie does not expressly teach the passage means "mutually communicating spaces separated by the optical components". Nishi teaches pipings the optical lens being "mutually communicated through pipings (19,20) (see fig.2 of Nishi). This provides a clear suggestion that it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Fujie and Nishi for the purpose of serving in gas purging.

Allowable Subject Matter

14. Claims 9 and 17 are allowed.

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Prior Art Made of Record

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koizumi et al (U.S.Pat. 4,704,348), Kemi et al (U.S.Pat. 4,825,247), Tokuda (U.S.Pat. 5,812,242) and Shinonaga et al (U.S.Pat. 5,838,426) discloses exposure apparatus each of which comprises substantially all elements as recited in the instant invention.

Response to Arguments

16. Applicant's amendment filed September 13, 1999 have been enter and fully considered. First, the applicant is reminded that this response is not fully responsive to the prior art Office Action because the foreign priority based on the applications filed in Japan on 9/4/97 and on 7/21/1998 has been claimed. However, the applicant has not filed certified copies of these foreign applications as required by 35 U.S.C. 119(b). Please clarify.

Applicant's argument has been fully considered but they are not deemed persuasive. In response to the applicant's argument that the term "substantially" in claim 1 is not indefinite; the examiner respectfully disagrees with the applicant. Generally speaking, Applicant is correct in stating that "this term would be readily understood by one having ordinary skill in the art when read in light of the subject disclosure". But in this case, it is not quite true. The recitation of "a gas having *substantially no water content*" does not make any patentable sense. In order to support his/her position, the applicant pointed to specific sections of the specification upon page 7

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at line 23 to page 8 line 7 but there is not even the remotest explanation to the claimed recitation. When saying "*substantially no water content*", at least the applicant must provides some standard for measuring this degree. For example, what is the minimum percentage/ or range of water in the gas? The applicant's disclosure is absolutely silent with this disputed matter. Therefore, it is the examiner's position that there is no distinguish whatsoever between the gas as claimed in the instant application and the gas in the recited references. For instant, Tanimoto et al noted "the gas may be, for example, air, nitrogen, helium, carbon dioxide or Freon gas" (see col.8, lines 7-8). Therefore, a conclusion can be made here: the gas in the cited art having "*substantially no water content*" (emphasis added).

Turning to the art rejection, the applicant's arguments with respect to the prior art rejections have been carefully considered and have been traversed in view of the new grounds of rejections as discussed above.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See M.E.P.. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CAR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this application or earlier communications from the examiner should be directed to Henry Nguyen whose telephone number is (703) 305-6462.

Any inquiry of a general nature or relating the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Alan A. Mathews
Primary Examiner

hvn 10/12/99